

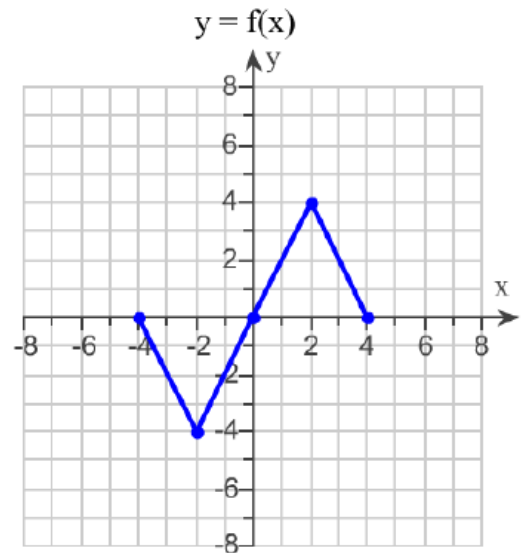
SE MRC College Algebra Content Review

Transformations of Functions Section 2.5

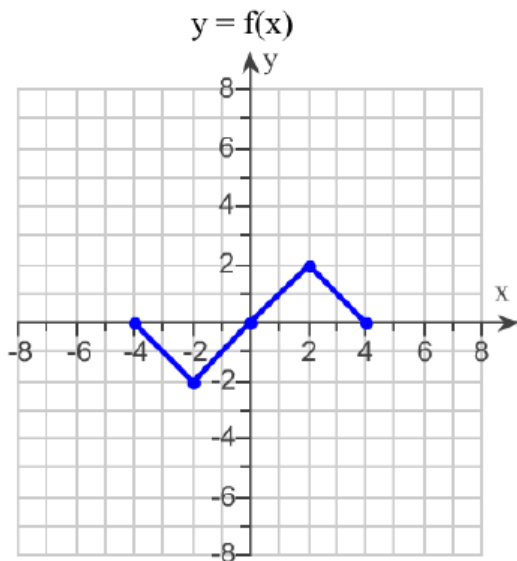
Learning Objectives:

1. Recognize graphs of common functions.
2. Use vertical shifts to graph functions.
3. Use horizontal shifts to graph functions.
4. Use reflections to graph functions.
5. Use vertical stretching and shrinking to graph functions.
6. Use horizontal stretching and shrinking to graph functions.
7. Graph functions involving a sequence of transformations.

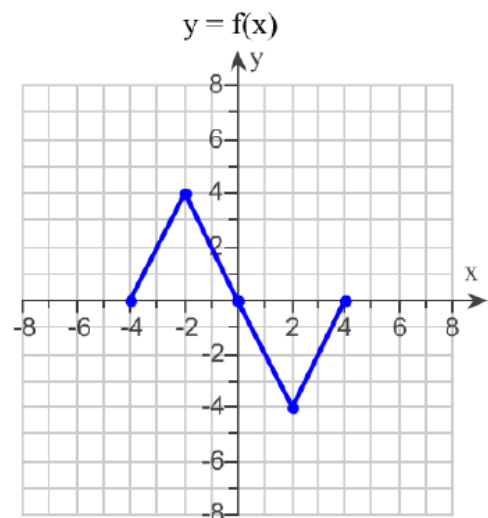
2. Use the graph of $y = f(x)$ to graph the function $g(x) = f(x - 2)$.



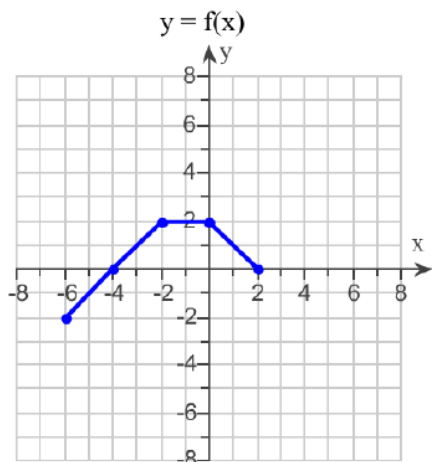
-
1. Use the graph of $y = f(x)$ to graph the function $g(x) = -f(x)$.



3. Use the graph of $y = f(x)$ to graph the function $g(x) = f(x - 1) - 1$.

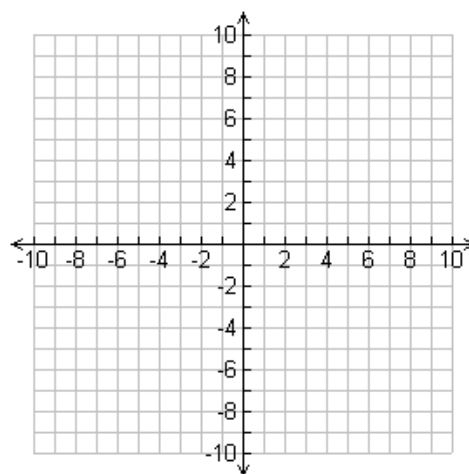


4. Use the graph of $y = f(x)$ to graph the function $g(x) = f(x + 2) - 5$.

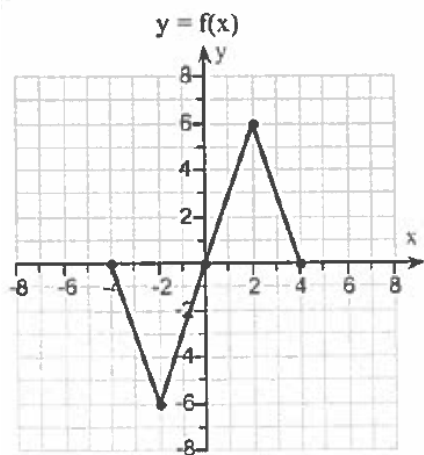


7. Use transformations of $f(x) = x^2$ to graph the following function.

$$g(x) = (x - 4)^2 - 1$$

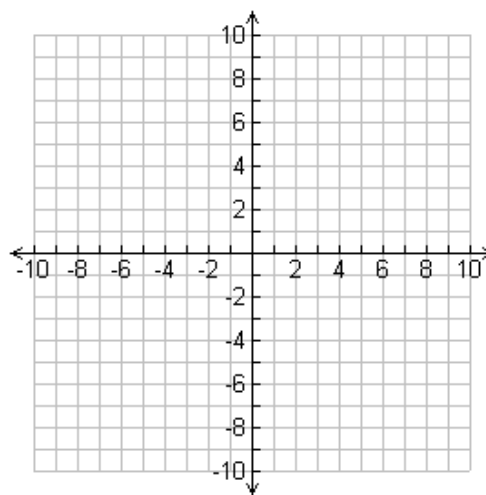


5. Use the graph of $y = f(x)$ to graph the function $g(x) = f(-x)$.



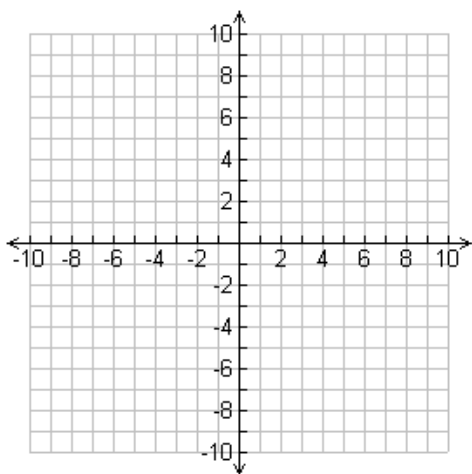
8. Use transformations of $f(x) = \sqrt{x}$ to graph the following function.

$$g(x) = \sqrt{x} + 4$$



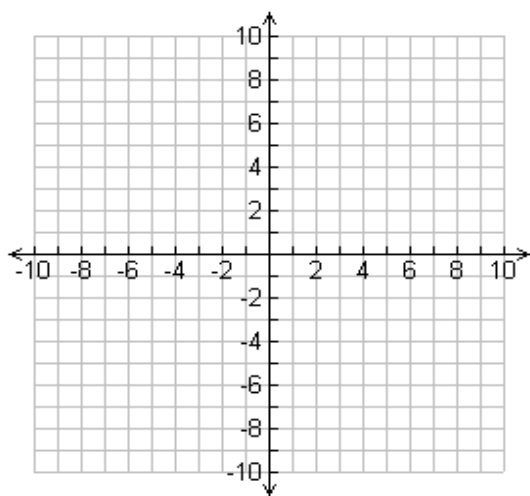
6. Use transformations of $f(x) = x^2$ to graph the following function.

$$f(x) = x^2 - 3$$



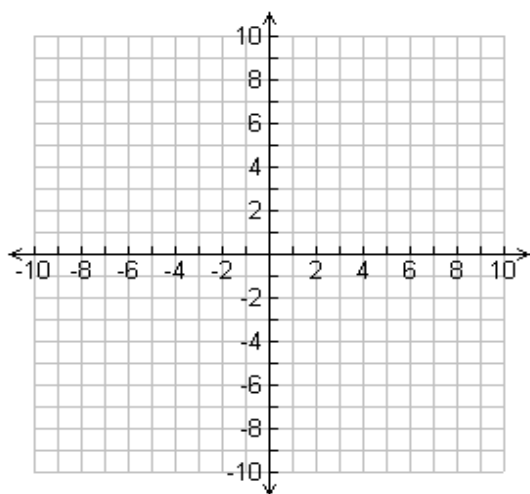
9. Use transformations of $f(x) = \sqrt{x}$ to graph the following function.

$$g(x) = -\sqrt{x+3}$$



10. Use transformations of $f(x) = \sqrt{x}$ to graph the following function.

$$g(x) = \sqrt{x+5} - 1$$



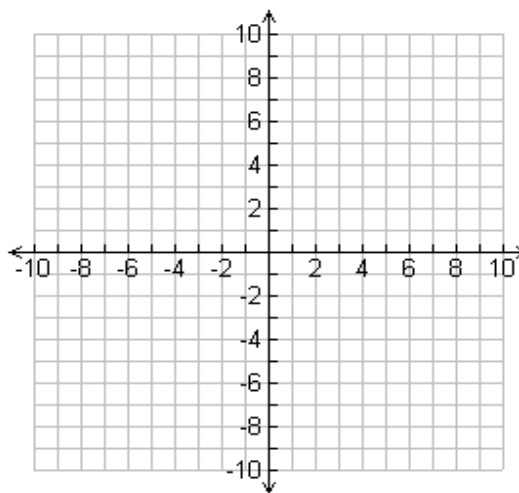
11. Begin by graphing the absolute value function, $f(x) = |x|$. Then use transformations of this graph to graph the given function.

$$f(x) = |x+3|$$

What transformations are needed in order to obtain the graph of $h(x)$ from the graph of $f(x)$?

- A. Vertical stretch/shrink
- B. Horizontal stretch/shrink
- C. Vertical translation
- D. Horizontal translation
- E. Reflection about the y-axis.
- F. Reflection about the x-axis.

Graph $f(x) = |x+3|$ below:



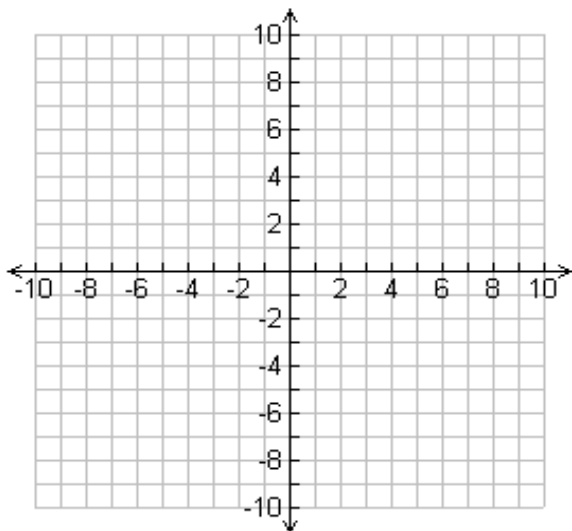
12. Begin by graphing the absolute value function, $f(x) = |x|$. Then use transformations of this graph to graph the given function.

$$f(x) = |x - 4| + 2$$

What transformations are needed in order to obtain the graph of $h(x)$ from the graph of $f(x)$?

- A. Horizontal translation
- B. Reflection about the x-axis
- C. Reflection about the y-axis
- D. Vertical translation
- E. Horizontal stretch/shrink
- F. Vertical stretch/shrink

Graph $f(x) = |x - 4| + 2$ below:



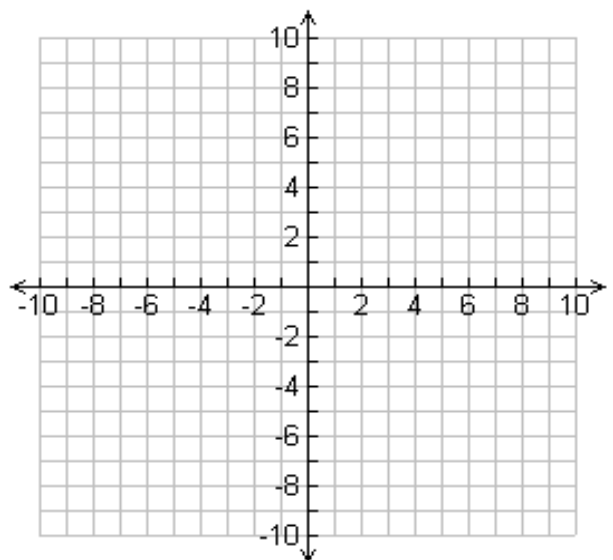
13. Begin by graphing the absolute value function, $f(x) = |x|$. Then use transformations of this graph to graph the given function.

$$f(x) = -|x - 1| + 4$$

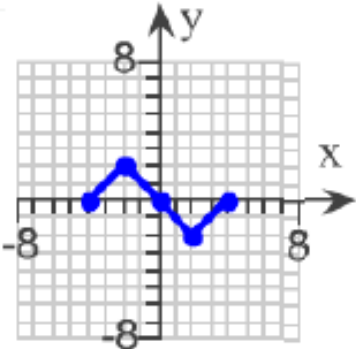
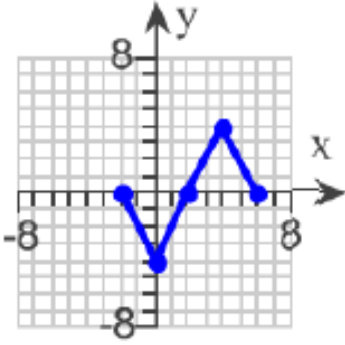
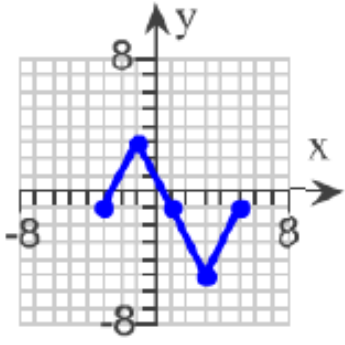
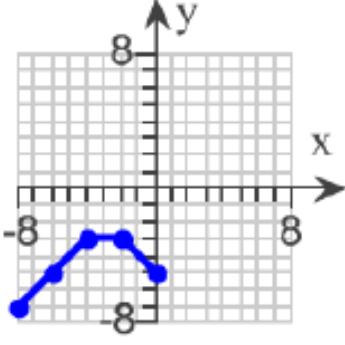
What transformations are needed in order to obtain the graph of $h(x)$ from the graph of $f(x)$?

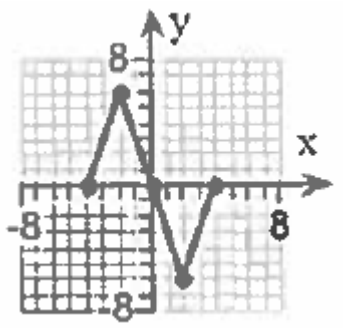
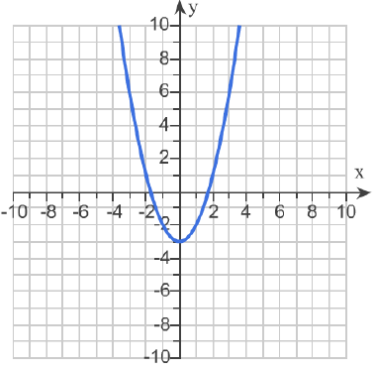
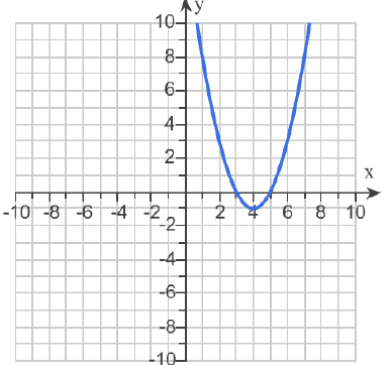
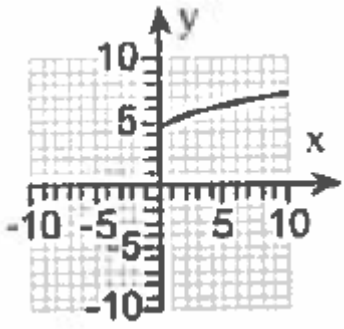
- A. Vertical stretch/shrink
- B. Horizontal stretch/shrink
- C. Vertical translation
- D. Horizontal translation
- E. Reflection about the y-axis.
- F. Reflection about the x-axis.

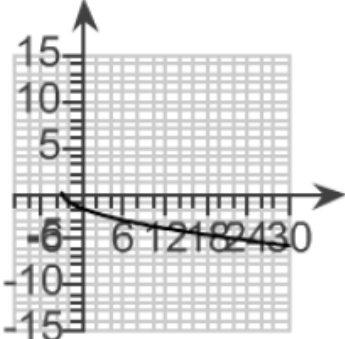
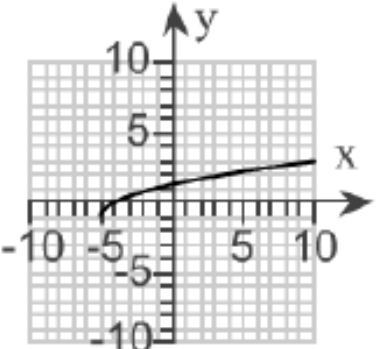
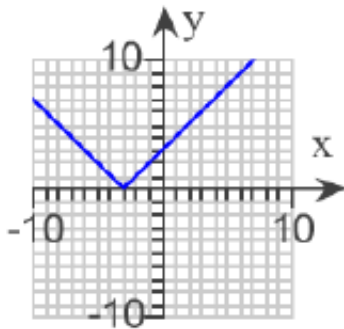
Graph $f(x) = -|x - 1| + 4$ below:

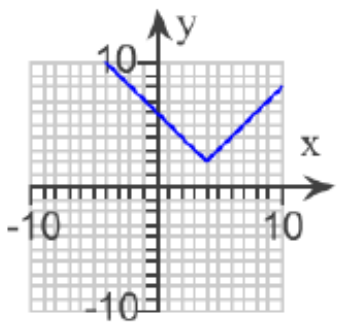


ANSWER KEY:

1.	
2.	
3.	
4.	

5.	
6.	
7.	
8.	

9.		
10.		
11.	a.	D
	b.	

12.	a.	A & D
	b.	
13.	a.	C, D, & F
	b.	